Dear District Resident:

Below you'll find a draft version of the *District of Columbia Residential Traffic Calming Policies and Guidelines*, the product of a cooperative effort by the Howard University Transportation Research Center and the District Department of Transportation (DDOT), funded by DDOT and the Federal Highway Administration. Upon its completion, DDOT will use the document as the foundation of its residential traffic calming program.

Residential traffic calming is a topic that has generated much interest in the District. For this reason, DDOT is posting this draft document on its Web site. We think this will serve two purposes – it will provide information on traffic calming to eager residents and also help to gather their input on both this document and the city's approach to traffic calming. Please give any comments by May 17th to John Frankenhoff of my office, who can be reached at john frankenhoff (adc. gov or (202) 671-2234.

A few clarifications about the document follow:

- A few citizens have asked about the need for a document like this, considering the vast amount of traffic calming information that is readily available. DDOT's feeling is that while it is true that there is an abundance of such information, this document attempts to distill it for both community members and DDOT officials in a manner consistent with the District's context, with the hoped-for result a set of policies and guidelines that make sense for the District. It should also be noted that the process of creating and reviewing this document has stimulated valuable internal dialogue on our current and future traffic calming efforts.
- The estimated costs of various traffic calming measures in the document are just that estimated. Implementation costs will vary based upon the circumstances of each installation.
- A few citizens requested that, if possible, we include photographs of local examples of the various traffic calming measures to better educate the public. We have not yet done this, but we hope to and will keep you apprised of our progress.

Using this document, DDOT will begin installing demonstration traffic calming measures in various parts of the city later this year.

Finally, let us emphasize that this document is still a draft. As such, it's not yet perfect. We look forward to receiving your input to move it in that direction.

Sincerely,

Kenneth G. Laden Associate Director

DISTRICT OF COLUMBIA RESIDENTIAL TRAFFIC CALMING POLICIES AND GUIDELINES

DRAFT FINAL REPORT

Transportation Policy and Planning Administration
District Department of Transportation
2000 14th Street, NW
Washington, DC 20009

Prepared by
Howard University
Transportation Research Center
2366 6th Street, NW
Washington, DC 20059

April 2002



GOVERNMENT OF THE DISTRICT OF COLUMBIA Anthony A. Williams, Mayor

TABLE OF CONTENTS

Glossary of Terms	Page ii
List of Acronyms	iv
List of Tables	v
List of Figures	vi
List of Forms	vii
Chapter 1: Introduction	1
♦ Back ground	1
♦ Statement of Purpose	2
♦ Issues and Concerns with Traffic Calming	3
Chapter 2 Traffic Calming Measures	5
 Considerations in Selecting Traffic Calming Measures 	5
◆ Speed Control Measures	6
♦ Volume Control Measures	21
♦ Vehicle Restrictions	26
 Traditional Traffic Control Devices 	26
♦ Intelligent Transportation Systems	27
 Next-Generation Traffic Calming and Other Methods Effectiveness of Traffic Calming Measures 	27 28
Chapter 3 Review of Application Processes in Various Jurisdictions	27
 Current Practice in the District of Columbia 	27
◆ Selected Cities	27
◆ The Role of States	31
◆ A Note on the European Experience	31
◆ Summary	32
Chapter 4 Traffic Calming Planning and Implementation Guidelines	33
◆ Application or Request Procedure	33
◆ Traffic Calming Study, Warrants, and Criteria	33
◆ Concurrence on Measure, Location and Design	39
◆ Response to Traffic Calming Application	39
♦ Design and Implementation	39
♦ Monitoring and Evaluation	39
◆ Modification or Removal of Traffic Calming Measure	40
BIBLIOGRAPHY	42.

GLOSS ARY OF TERMS

Arterials – Roadways that generally conduct vehicular traffic between collector streets and highways. Traffic is supposed to move on a sequence through the hierarchy of streets: residential to collector to arterial to highway, and then back down the hierarchy.

Bulbout – An extension of a curb in the form of a bulb, usually at an intersection, that narrows the vehicular pathway and inhibits fast auto turns.

Chicane – Series of fixed objects, usually curb extensions, which turn a straight roadway into a zigzagging one to slow vehicles.

Choker – Narrowing of a street to reduce speeds. Often deployed mid-block and sometimes at an intersection. May be done with curb extensions, landscaping or islands in the street.

Circle – A small island in mid-intersection (usually from 16 to 25 feet in diameter) that forces traffic to slow and negotiate the curve. When used in residential areas, they can be landscaped for aesthetic or barrier purposes and may have mountable curbs to facilitate rapid movement of emergency vehicles.

Collectors – Intermediary streets that funnel vehicular traffic from residential streets to arterials and back. They are typically 40 feet wide.

Diagonal Diverter – Partition that connects two diagonally opposite curbs, bisecting an intersection, to force motor vehicles to slow down and turn. A traversable diverter is a diagonal diverter that allows emergency vehicles, as well as bicyclists and pedestrians, to cross it.

85th **Percentile S peed** – The speed at or below which 85% of the free flowing vehicles are traveling.

Gateways – Usually alterations in the pavement surface, using materials such as brick, stamped concrete or different-colored pavement, which signal to the driver that he or she is entering a neighborhood or community that may require lower speeds. Pillars and archways are also sometimes used. Also known as entry treatments.

Level of Service/Capacity – Qualitative measure describing operational conditions within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. It ranges from A (ideal) to F (breakdown).

Median – Island in the center of a street or intersection to protect pedestrians and provide landscaping. Medians prevent passing, left turns, separate opposing travel lanes and provide visual enhancement.

Median Slow Points – Center-located barriers dividing opposing roadway travel lanes at either intersections or midblock.

Neckdown – Extensions of a curb in the form of a bulb, usually at an intersection, that narrows the vehicular pathway, thereby slowing vehicle speeds and inhibiting fast turns. They also make pedestrian crossing distances shorter.

Raised Crosswalk – A traditional pedestrian crossing area raised to give better visibility to the crossing area. Further, its raised natures interrupts drivers' momentum and signals that they should yield to pedestrians.

Rumble Strips – Paving or markings that create a change of texture in the road surface, signaling the driver to slow down.

Signage – Traffic and roadway signs.

Speed Bumps, Humps and Tables – Raised pavement designed to slow traffic speeds. The terms are used interchangeably by the public and many municipalities, but some engineers define a speed bump as a narrow, abrupt strip found mostly in parking lots, speed humps as generally rounded and 14- or 22 feet from start to finish and speed tables as having a 10-foot flat-topped section. Usually they are all about 3-6 inches high.

Speed Study – A study to measure, collect and statistically analyze the speeds of vehicles.

Study Area – The boundary of the problem area, which may cross traditional neighborhood boundaries.

Traffic Calming – Methods used to reduce vehicular speed and volume, and increase the sharing of streets by pedestrians and other users. Generally refers to physical measures and roadway design changes, but enforcement and education can be components.

Traffic Calming Measure – An element of a traffic calming plan selected from among those devices.

Traffic Calming Study – An appraisal of traffic conditions and the development of a plan for implementing one or more traffic calming devices.

Warrants – The minimum criteria necessary to call for a roadway solution, such as installation of a stop sign or traffic calming device. Typically required are objective measures such as speed surveys, traffic volume studies and accident records.

LIST OF ACRONYMS

AAS HTO – American Association of State Highways and Transportation Officials

ANC – Advisory Neighborhood Commission

DDOT – District of Columbia Division of Transportation

HCM - Highway Capacity Manual

ITE – Institute of Transportation Engineers

ITS – Intelligent Transportation Systems

MUTCD – Manual on Uniform Traffic Control Devices

LIST OF TABLES

Table		Page
2.1:	Advantages, Disadvantages and Cost of Speed Bumps	6
2.2:	Advantages, Disadvantages and Cost of Roundabouts/Circles	8
2.3:	Advantages, Disadvantages and Cost of Chicanes	10
2.4:	Advantages, Disadvantages and Cost of Raised Crosswalks	11
2.5:	Advantages, Disadvantages and Cost of Raised Intersections	12
2.6:	Advantages, Disadvantages and Cost of Neckdowns	13
2.7:	Advantages, Disadvantages and Cost of Chokers	14
2.8:	Advantages, Disadvantages and Cost of Textured Pavements	15
2.9:	Advantages, Disadvantages and Cost of Rumble Strips	16
2.10:	Advantages, Disadvantages and Cost of Gateways	17
2.11:	Advantages, Disadvantages and Cost of On-Street Parking	18
2.12:	Advantages, Disadvantages and Cost of Pedestrian Refuge	19
2.13:	Advantages, Disadvantages and Cost of Median Barriers	20
2.14:	Advantages, Disadvantages and Cost of Cul-de-sacs	21
2.15:	Advantages, Disadvantages and Cost of Half Closures	22
2.16:	Advantages, Disadvantages and Cost of Diagonal Diverters	23
2.17:	Advantages, Disadvantages and Cost of Forced-turn Islands	24
4.1:	Data Collection for Traffic Calming Study	37

LIST OF FIGURES

Figure		Page
1:	Speed Bump	7
2:	Speed Hump	7
3:	Speed Table	7
4:	Roundabout	9
5:	Traffic Circle	9
6:	Chicane	10
7:	Raised Cross Walk	11
8:	Raised Intersection	12
9:	Neckdowns	14
10:	Chokers	15
11:	Textured Pavement	13
12:	Rumble Strip	16
13:	Gateway	17
14:	On Street Parking	18
15:	Pedestrian Refuges	19
16:	Median Barrier	20
17:	Cul de sac	21
18:	Half Closure	22
19:	Diagonal Diverter	23
20:	Forced-turn Island	24
21:	Traffic Calming Application Procedure	34

LIST OF FORMS

Form		Pag	;e
1:	Request for Traffic Calming Study	36	
2:	Request for removal of a Traffic Calming Measure	42	